DOCUMENT RESUME

ED 200 735 CE 028 412

AUTHOR Momeni, Jamshid
TITLE Adult Participation in Education: Past Trends and Some Projections for the 1980s. Worker Education and Training Policies Report.
INSTITUTION National Inst. for Work and Learning, Washington, D.C.
SPONS AGENCY National Inst. of Education (ED), Washington, D.C.
PUB DATE 80
CONTRACT 400-76-0125
NOTE 66p.; For related documents see CE 028 398-411.
AVAILABLE FROM National Institute for Work and Learning, Suite 301, 1211 Connecticut Ave., N.W., Washington, DC 20036 (Order No.: PRM 11, $10.00).

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Access to Education; *Adult Education; Adult Students; Age; Blacks; Definitions; Demography; Educational Attainment; Educational Opportunities; *Educational Trends; Education Work Relationship; *Enrollment Trends; Family Income; Females; Futures (of Society); Males; *Nontraditional Students; *Participant Characteristics; Postsecondary Education; Race; Sex; Socioeconomic Status; Statistics; *Student Characteristics; Trend Analysis; Whites; Work Environment

ABSTRACT

During the 1970s, unprecedented numbers of American adults returned to school. The reasons for this growth and what trends in adult education can be projected for the future are the subject of this policy research monograph. The monograph began with the question, "What will the clientele and scale of adult education likely be in 1990 if present trends continue and if there are no marked changes in the way work institutions, education institutions, and American workers behave toward adult education?" The report is a portrayal of the next ten years of adult education, assuming continuation of past trends in participation for various age, sex, race, educational attainment, and income groupings in the population. It assumes no significant change in the way major work and educational institutions value and support worklife education opportunity. These projections suggest a future of widening disparity in educational attainment between majority and minority population, between the more affluent and the less afluent, younger and older adults, and between high educational achievers and those with low prior educational attainments. (KC)

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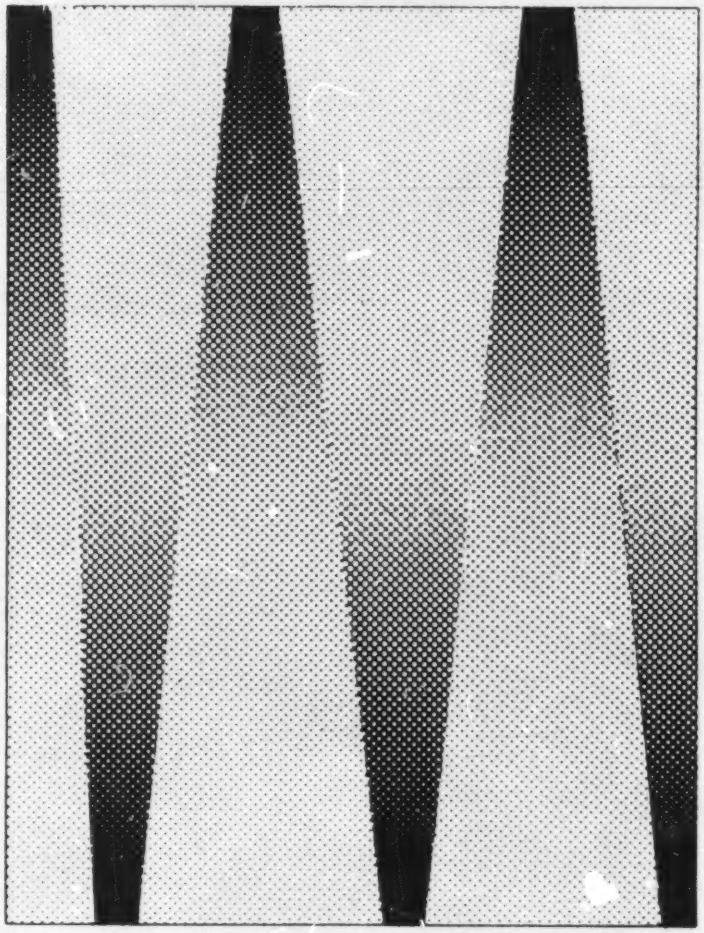

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Adult Participation In Education: Past Trends and Some Projections for The 1980s

Jamshid Momeni
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CE 028 412

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$ 10.00

This is one in a series of policy research monographs commissioned by the Project on Worker Education and Training Policies of the National Institute for Work and Learning.* Funding support for this project and the commissioned papers was provided by the National Institute of Education, U.S. Department of Education under contract number 400-76-0125.

The authors of the policy research papers in this series are knowledgeable analysts both from within and without the National Institute for Work and Learning. Their charge was to explore one or more issue areas which the project identified as being of significant interest to public and private sector decision makers concerned with shaping worker education and training policy and practice for the coming decade. Authors were asked to synthesize the relevant research bearing on the issue areas, to assess the knowledge base with a view to discerning the points of public and private policy relevance, and to use their best independent professional judgements in offering recommendations for action.

Therefore, it is important to note that the opinions and points of view presented in this and other papers in this series do not necessarily represent the official positions or policy of either the National Institute of Education or of the National Institute for Work and Learning.

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HAS PROVIDED THE FUNDING SUPPORT
NECESSARY FOR THE DEVELOPMENT OF
THIS POLICY RESEARCH MONOGRAPH.

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FOREWORD

This policy research monograph by Jamshid Momeni began with the question, "What will the clientele and scale of adult education likely be in 1990 if present trends continue and if there are no marked changes in the way work institutions, education institutions and American workers behave toward adult education?" Behind this question were several persistent concerns. There was the evidence from the triennial survey of adult education indicating a widening of the gap in participation between the educational haves' and have nots'. There was an appreciation that despite the major experimentation of the 1960's and early 1970's at post-secondary education institutions, the prevailing institutional behavior addresses working adults in terms of what they aren't, i.e., as nontraditional students; and not in terms of what they are, adult working learners. There was, too, a concern to know whether the adult education boom experienced in the 1970's was a signal of profound changes to come or simply an artifact of the baby boom bulge passing through the post-secondary education system.

What follows is one portrayal of the next 10 years of adult education; one that assumes continuation of past trends in participation for various age, sex, race, education attainment, and income groupings in the population. It assumes no significant change in the way major work and education institutions value and support worklife education opportunity. Therein lies the key caveat to the problemsome future these projections suggest; a future of widening disperity in educational attainment between majority and minority populations, between the more affluent and the less affluent, younger and older adults, and between high educational achievers and those with low prior educational attainments. The ways and means exist to create a future considerably different from that proferred here. Will the opportunities be seized?

Gregory B. Smith
Director
Worker Education and Training
Policies Project

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INTRODUCTION

During the 1970's unprecedented numbers of adult Americans returned to school. Although most visible in post-secondary education, where several observers noted the commencement of a period of "age neutralized" higher education, significant enrollment growth was registered at all levels of adult education.

Why the growth? With what effect? And what of the 80's? Satisfactory answers to these questions are not yet at hand despite the growing research attention given to them. These are questions of concern to this paper.

The effects of this adult education boom have been significant for the adult participants, educational institutions, the workplace and the broader community. In this growth pattern some have seen salvation for post-secondary institutions haplessly deserted by a fickle ally, the traditional young adult cohort. Some are cheered by what appears a broader trend, the melting down of the frozen notion that education is for youth, all to be consumed at one sitting, followed by 30 years of uninterrupted work, with the remainder of life served in idling obsolescence. In any event, the effects of the trend have been manyfold and important. The pressing question for public policy is: will the boom continue, or was it a fluke of demography?

What accounts for this pattern of growth is a more complex question. It may or may not be revealing to note that changes in family structures, in the composition of the labor force, in

occupational structures, in work patterns, in educational practices and offerings, in work and education values and in demographic variables are each partially responsible. Certainly no convincing explanation has yet been offered as to which of these primary or derivative factors is responsible for what part of the boom. Our penchant is to infer greater importance to those factors which we are best able to measure. Clearly the demographic variables are among the best measured. And in full recognition of the not improbable chance that the weight of causality may lie elsewhere, this paper rests heavily on analysis of demographic variables.

Some illumination of what the adult education boom means for institutions of education and work and for occupational and social mobility in this country, can be gleaned from a disaggregated look at who participated and who did not. So, too, can some inferential understanding of the factors contributing to that boom. Finally, and of central importance to present purposes, a careful examination of the age, race, sex, prior education attainment and income levels of the 1970's participants can give a limited purchase on what the next ten years may look like, if we project forward from these fragments of the whole.

Objective

This paper presents two series of projections on the number of participants in adult education at the end of this decade,

and predicates these on an analysis of past trends and changes in participation. Age, sex, race, prior level of education attained, and income levels are the key variables examined.

Program operators, program developers and policy makers in the education community have need for information on the direction of adult education trends and on levels of adult participation in education. This paper is intended to help meet that need.

Definitions

Many definitions of "adult education" have been put forth both in this country and abroad.[1] In this paper the definitions of "adult" and "adult education" given by the National Center for Educational Statistics are used. Accordingly, "adult" is defined as any person more than 17 years of age. "Adult education" is defined as "organized learning to meet the unique needs of persons beyond compulsory school age who have terminated or interrupted their formal schooling".[2] (Boaz, 1978:1)

The use of NCES definitions results from the fact that NCES provides the most complete data base available. Such use does not proceed from any philosophical or dispositional preference for these definitions.

Uses of Projections: Johnston (1973:6) offers a detailed discussion of the utilities of projections in general. Briefly, projections may fulfill any or all of the following purposes: (1) they allow the user to anticipate the "probable magnitude or impact of some probable or postulated set of conditions or

changes at some future time" (this is the most common purpose of projections, and is referred to as the "anticipatory function"); (2) projections sometimes constitute the basic input for planning and/or program development; (3) they are a sometimes essential ingredient in program evaluation; (4) projections which are derived on the basis of certain underlying assumptions may in turn provide the inputs to other projections; (5) projections may serve a public information function; and (6) projections have an exploratory function. In view of the functions fulfilled, projections have great potential value in research.[3]

As emphasized by Grankel and Harrison (1977:2) "The properties of the methodology and assumptions which determine projections and the nature of the statistical services from which the basic data are obtained require that no false sense of accuracy be attributed to the numerical values of the projections." Projections are basically heuristic and/or descriptive in the sense that they are not linked to any particular theory explaining the observed trends. In addition to not being theory-based, projections are "without advocacy for any policy change" (Frankel and Harrison, 1977:2). In other words, projections represent extrapolation of past or assumed trends, and their usefulness will depend on the validity of the assumptions that underlie each particular projection.

Method: Relatively simple methods may be used both for short-range projections (under 10 years) and for middle range (10 to 25 years) projections (Shryack, 1976:441). The pro-

jections reported in this paper are short-range projections. Thus, the simple method has been employed. The more elaborate methods require more data. We have resorted to the simplest method not just because the projections are short-term, but also because the detailed information required for the employment of the more elaborate methods was not available to us.

Projections reported in this paper utilize the so-called compound interest (exponential growth) formula.[4]

Assumptions

Between 1969 and 1978 participation in adult education (PAE) increased at an annual rate of 3.6%. It rose sharply at an annual rate of 6.2% during the first part of this period, 1969-72, falling to a 2.7% growth rate between 1972 and 1975; and falling further to a growth rate of 1.7% from 1975-1978. Thus, growth in PAE came into the 1970's like a lion, leaving the decade more like a lamb.

Our projections, both for the period 1978-1980 and for the period 1980-1990, are that growth rates will be more in keeping with those of the mid seventies than with the early 70's and will indeed be slightly lower for the 1980-1990 period. On what assumptions are these rates and the projected numbers of participants based? The major assumptions are these:

- The aging of the U.S. population during the 1980-1990 period will see more adults entering age ranges where participation has traditionally been lower, eg. over age 65.

- The cost of education, which rose precipitously during the 1970's and is likely to continue to rise in the 1980's, will have a depressing effect on PAE.
- Inflation will reduce the amount of discretionary income available to adult would-be learners during the 1980's.
- High rates of unemployment expected in the early 1980's, and experienced throughout the second half of the 1970's, will depress participation rates.
- Expansion of on-the-job training and education programs by industry will, on balance, tend to divert adults away from "formal" adult education programs.
- Expansion of self directed learning activity--likely to result from rapid proliferation of "home entertainment/education centers" of various kinds--will divert adults from "formal" adult education programs.
- Growing uncertainty about the pay-off of education will likely further depress PAE.
- Higher rates of work force participation by women will act to increase participation rates.
- Changes in institutional practices to reduce barriers to working adults' participation in education will exert positive influence.
- The movement of a larger number of Americans into higher income brackets will have modest positive influence on PAE.
- Heightened certification requirements in the licensed occupations, and other occupational segmentation tendencies, will contribute to adult participation.
- Liberalization of tuition assistance programs will have a modest positive influence on PAE.

We deduce from the mix of "stimulative" and "depressive" factors and trends, a continued deceleration in the rate of the growth in adult participation in education of the kinds presently measured by the NCES. We do not deduce from this any decline in the level or extent of learning activity in the U.S. in the decade ahead. As noted in the assumptions, the penetration into home markets of new instructional technologies

will likely accelerate learning activity. (We are speaking here solely of enrollments in organized learning activities as are measured by the NCES.) Nor do we deduce anything about the individual, institutional or social effects of, or consequences resulting from, adult participation in education. That is beyond the scope of this paper.

Beyond that and the specific caveats on the use of projections mentioned above, we are cognizant that the projections offered here could be tossed into a cocked hat by any number of events, war being only one of them. A few of the leading contenders among such events would be: more rapid than anticipated accomodation of "would-be adult learners" by education institutions; more rapid than anticipated development of counter-cyclical education and training policies on the part of government, industry and labor (Barton, 1979); or, emergence of a greater consensus within work institutions that investment in the education and training of working adults might yield productivity gains and/or present new options for managing increasingly crowded internal labor markets.

I. CHANGES DURING THE 1969-1978 PERIOD

The actual changes during the 1969-1978 period are shown in Table 1. As noted in Table 1, the total number of participants in adult education increased from 13,041,000 in 1969 to 15,734,000 in 1972; to 17,059,000 in 1975 and 17,982,000 in 1978. In terms of annual rate of growth, the number of participants in Adult Education (AE) increased at the rate of 6.2 percent annually between 1969 and 1972; at the rate of 1.8 percent between 1972 and 1975; and at the rate of 1.7 percent betweer 1975 and 1978; with 3.6 percent as an average rate of growth over the whole 1969-1978 span. According to these rates, the highest rate was observed between 1969 and 1972, with a decline to 1.7 percent for the 1975-78 period. The 1975-78 rate is almost one third of what was observed between 1969 and 1972. Clearly, this demonstrates that the 1969 to 1972 was a period with an exceptionally high rate of participation in AE. For this reason the 1975-78 rate seems to be a much better indicator of the future trends than the 1969-72 rate; we have used, in most cases, the 1975-78 rate as one of the rates for the alternative projections. The declining trend may reflect two major component factors: (1) changing demographics; and, (2) real or actual changes in the propensity to participate in adult education. Of these the former component factor, which is explained later in this paper, may prove to be the more important.

The rate of participation in AE for the total participants in AE varies greatly for various population subgroups.

Table 1: Number and Annual Rate of Growth in Participants in Adult Education: 1969, 1972, 1975 and 1978 (numbers in 1000's)

Population Characteristics	Participants in Adult Education (Figures in 1000's)				Percent Annual Rate of Growth			
	1969	1972	1975	1978	69-72	72-75	75-78	69-78
Total	13,041	15,734	17,059	17,982	+ 6.2	+ 1.8	+ 1.7	+ 3.6
Age								
17-34	6,956	8,644	9,604	10,047	+ 7.2	+ 3.5	+ 1.5	+ 4.1
35-54	5,037	5,727	5,829	6,025	+ 4.3	+ 0.6	+ 1.5	+ 2.0
55 & over	1,048	1,363	1,627	1,910	+ 8.8	+ 5.9	+ 5.3	+ 6.7
Race								
White	11,928	14,518	15,739	16,596	+ 6.5	+ 2.7	+ 1.7	+ 3.7
Black	982	1,011	1,031	1,054	+ 1.0	+ 0.6	+ 0.7	+ 0.8
Other	131	205	289	332	+14.9	+11.4	+ 4.6	+10.3
Sex								
Male	6,800	7,738	8,027	7,786	+ 4.3	+ 1.2	- 1.0	+ 1.5
Female	6,241	7,995	9,032	10,206	+ 8.2	+ 4.8	+ 4.0	+ 5.5
Education								
Under 4 yrs, H.S.*	1,985	2,066	1,756	1,739	+ 1.3	- 5.4	- 0.3	- 1.5
4 yrs. H.S.	5,067	5,916	6,396	6,324	+ 5.2	+ 2.6	- 0.4	+ 2.5
1-3 yrs. College	2,576	3,373	3,687	4,220	+ 8.9	+ 3.0	+ 4.5	+ 5.5
4+ yrs. College	3,413	4,379	5,220	5,700	+ 8.3	+ 5.8	+ 2.9	+ 5.7
Annual Income								
Under $5,000	1,355	1,621	1,169	989	+ 6.0	-10.8	- 5.6	- 3.5
$5,000-9,999	4,124	3,968	3,102	2,239	- 1.3	- 8.2	-10.9	- 6.8
$10,000-14,999	3,799	4,794	4,294	3,224	+ 7.8	- 3.7	- 9.6	- 1.8
$15,000-24,999	2,248	3,626	5,408	6,152	+15.9	+13.3	+ 4.3	+11.2
$25,000 and over	516	1,166	2,372	4,594	+27.2	+23.7	+22.0	+24.3
Not Reported	0	599	714	784	-	-	-	

*H.S. stands for High School

Source: The 1969, 1972, and 1975 figures are from Boaz (1978: 4-7). The 1978 data are from unpublished data provided by Ruth L. Boaz in January 1980.

This is shown in Table 1. A brief examination of participation in AE for several demographic subgroups during the 1969-78 period follows:

Rate of Participation in AE by Age: The variations in participation in AE for the age groups 17-34, 35-54, and 55 and over are shown in Table 1. As can be noted from the Table the average annual rate of growth in the absolute number of participants in adult education for the 1969-1979 period, as well as for the shorter periods, was highest among those 55 years of age and over; the second highest rate for those 17 to 34 years of age; and, the lowest rate for those 35-54 years of age. The annual rates of participants in AE for the 17-34 age group were 7.2 percent during the 1969-1972 period; 3.5 percent during the 1972-1975 period; and 1.5 percent during the 1975-1978 period, with an average annual rate in the absolute number of participants in AE of 4.1 percent over the nine years between 1969 and 1978. For those in the 35-54 age group, the rate was 4.3 percent during the 1969-1972 period; only 0.6 percent during the 1972-1975 period; and, 1.5 percent during the 1975-1978 period. Among those 55 years of age and over, the number of participants in AE grew at the rate of 8.8 percent during the 1969-1972 period; 5.9 percent during the 1972-1975 period; and 5.3 percent during the 1975-1978 period, with an average rate of 6.7 percent over the 1969-1978 period. Many factors contributed to these wide differentials in the participants in AE rates by age. Demographic variables are the most important ones. Those 17 to 34 years of age in 1969 were born between 1935 and 1952, which covers a significant part of the baby boom period.

Table 2 shows birth rate in the United States between 1909 and 1978. As can be seen from the Table, the birth rate of 18.7 in 1935 increased to 20.3 by 1941; reached the rate of 26.6 in 1947; and in 1952 a 25.1 rate was reached. The high birth rate during the 1947-52 period partly accounts for the relatively large rate of participants in adult education (PAE) in the 1969-72 period by those in the 17-34 age group. Those 35-54 years of age in 1969 were born between 1914 and 1935, a period when the U.S. witnessed a low birth rate. The birth rate dropped from 30.1 in 1910 to 18.7 in 1935 and to 18.4, its lowest point, in 1936. Those 55 years of age and over in 1969 were born before 1914, another period when the U.S. birth rate was very high--even higher than the peak of the baby boom period. This will explain, at least partly, the highest rate of PAE by those 55 years of age and over during the 1969-78 period.

However, so far we have only dealt with the change in the absolute numbers. In order to see whether there has been any real change in the differentials in the rate of participation in AE, we looked at the percent of the adult population taking AE courses in different years by age. Table 3 shows the number of adults in various subgroups and Table 1 shows the number of PAE. From the data presented in these tables, the following percentages are calculated.

Age Groups	1969	1972	1975	1978
17-34 years	14.4	15.9	16.0	15.5
35-54 years	11.1	12.5	12.7	12.9
55 years and over	2.9	3.5	4.0	4.4

Table 2: Birth Rate, U.S. Actual 1909 to 1978

Year	Birth Rate	Year	Birth Rate
1909[a]	30.0	1954	25.3
1910	30.1	1955	25.0
1920	27.7	1956	25.2
1930	21.3	1957	25.3
1931	20.2	1958	24.5
1932	19.5	1959	24.0
1933	18.4	1960	23.7
1934	19.0	1961	23.3
1935	18.7	1962	22.4
1936	18.4	1963	21.7
1937	18.7	1964	21.0
1938	19.2	1965	19.4
1939	18.8	1966	18.4
1940	19.4	1967	17.8
1941	20.3	1968	17.5
1942	22.2	1969	17.7
1943	22.7	1970	18.2
1944	21.2	1971	17.2
1945	20.4	1972	15.6
1946	24.1	1973	14.9
1947	26.6	1974	14.9
1948	24.9	1975	14.8
1949	24.5	1976	14.8
1950	24.1	1977	15.4
1951	24.9	1978	15.3
1952	25.1		
1953	25.0		

Source: Various U.S. Bureau of the Census Reports:

a: Rates prior to 1909 were even higher than 30.0. Demographers have estimated the crude birth rate for the Black population to have been between 50 and 60 births per 1,000 by the mid 1800's. In comparison, the White population was estimated to have a crude birth rate of around 45 per 1,000 at the same time (Moore and O'Connel, 1978:2-3).

Table 3: Number of adults (17 years of age and over) in population, U.S. 1969, 1972, 1975 & 1978 (Figures are in 1000's)

Population Characteristics	1969	1972	1975	1978
Total	130,215	138,865	146,602	154,496
Age				
17-34 years	48,270	54,424	60,038	64,611
35-54 years	45,484	45,715	45,871	46,787
55 and over	36,498	38,726	40,693	43,098
Race				
White	116,410	123,639	129,592	135,874
Black	12,595	13,752	14,856	16,015
Other	1,247	1,474	2,153	2,607
Sex				
Male	60,848	64,836	68,810	72,930
Female	69,403	74,029	77,792	81,565
Education				
Under 4yrs. H.S.*	57,381	55,730	53,388	52,091
4 yrs. H.S. *	44,680	49,679	53,755	56,847
1-3 yrs. college	15,537	18,407	21,002	24,046
4+yrs. college	12,655	15,049	18,457	21,512
Annual Income				
Under $5000	31,569	29,132	23,373	18,699
$5000-9,900	45,581	39,996	31,518	27,091
$10,000-14,999	32,343	33,967	33,198	28,299
$15,000-24,999	17,035	21,093	34,118	41,726
$25,000 & over	3,725	6,837	13,408	26,184
Not Reported	0	7,841	10,987	12,497

* H.S. Stands for High School
Source: Boaz (1978: 4-7), and unpublished data provided by Boaz.

As the above proportions (percentages) indicate, among those 17-34 years of age the proportion of the total adults participating in AE increased from 14.4 percent in 1969 to 15.9 percent in 1972, to 16.0 percent in 1975, and then dropped to 15.5 percent in 1978, still more than one percentage point above the 1969 level of PAE. This shows that between 1969 and 1978 there has been a real increase in the rate of PAE among those in the 17-34 age group. Relative to those in the 35-54 age group the proportion of participants in AE grew from 11.1 percent in 1969 to 12.5 percent in 1972; to 12.7 percent in 1975; and to 12.9 percent in 1978--a gradual and continuous increase totaling a 1.8 percentage point gain between 1969 and 1978. Among those 55 years of age and over, the proportion of the total adults participating in adult courses increased from 2.9 percent in 1969 to 3.5 percent in 1972; 4.0 percent in 1975, and 4.4 percent in 1978--also a continuous and gradual increase in PAE by those in this age group. Two important observations need to be made. First, irrespective of the rate of change, the bulk of participants in adult education come from those in the 17-34 age group. As of 1978 the relative participation of those 55 years of age and over was small--4.4 percent as compared with 15.5 percent of those in the 17-34 age group. Second, in terms of the change in absolute numbers those in the 34-54 age group, as discussed earlier, showed the smallest change between 1969 and 1978 (see Table 1), but in terms of real change in the rate of participation in adult education, those 35-to 54 years old constituted

the largest increase.

Rate of Participation in Adult Education by Race: The actual number and the rate of PAE by race for the 1969-78 period is shown in Table 1. The overall (1969-78 period) average annual rate of PAE among whites was 3.7 percent as compared to 0.8 percent for blacks--that is, the rate for whites was found to be 4.6 times greater than the rate for blacks. The rate of PAE was highest among the "other" racial category. But the high rate of change observed in the "other" racial category is due to the fact that the base population in this category is small and consequently a small change in the absolute numbers appears to represent a large rate of change. Perhaps a better or more meaningful way to look at the differentials in PAE by race is to calculate the percent of adult population participating in adult education for the different racial categories in different years as shown below:

Race	1969	1972	1975	1978
Whites	10.2	11.7	12.1	12.2
Blacks	7.8	7.4	6.9	6.5
Other	10.5	13.8	13.4	12.5

The above figures are obtained by dividing the number of participants in adult education by the number of adults in population for the particular racial category. For example, in 1969 the number of PAE among the 116,410,000 white adults was 11,928,000. If we divide 11,928,000 by 116,410,000 we get a 0.102 proportion (or 10.2 percent) of the white adults participating in adult education in 1969; similar calculations are made for different subcategories. These figures are quite

revealing. The proportion of white PAE gradually increased from 10.2 percent in 1969 to 12.2 percent in 1978. But the proportion of black PAE surprisingly declined from 7.8 percent in 1969 to 6.5 percent in 1978. Similarly, the proportion of "other" PAE declined from 13.9 percent in 1972 to a low of 12.7 percent in 1978. In 1969 blacks constituted 9.7 percent of the total adults, 7.5 percent of PAE; in 1978, however, they constituted 10.4 percent of the adults but only 5.9 percent of PAE. This suggests that the gap between the proportion of whites and blacks who participated in adult education did not narrow down, but actually widened. In 1969 the gap was 2.4 percentage points (10.2-7.8 = 2.4); but it increased to 5.7 percentage points by 1978. This shows that in the years between 1969 and 1978 relatively fewer and fewer blacks joined the ranks of participants in adult education. A similar trend is observed for the years between 1972 and 1978 for the "other" racial category. In 1969 the "other" racial category constituted 0.96 percent of the total adults and 1.0 percent of the PAE. In 1978, the corresponding percentages were 1.7 percent and 1.8 percent, respectively. But as can easily be ascertained, the actual rate of PAE declined in 1978 as compared to 1975 and 1972. This is due to the fact that in 1972 13.9 percent of all adults in the "other" category participated in adult education, and this proportion declined to 12.7 percent by 1978.

Rate of PAE by Sex: The actual numbers and the annual rate of participation in adult education in 1969, 1972, 1975

and 1978 are shown in Table 1. As can be noted from the Table, the annual rate of increase in PAE between the years 1969 and 1978 was 1.5 percent for males and 5.5 percent for females. That is, the female rate was 3.7 times greater than the rate for males.

Sex	1969	1972	1975	1978
Male	11.2	11.9	11.7	11.3
Female	9.9	10.8	11.6	12.5

As the above percentages show, the percent of males participating in adult education ranged between 11.2 and 11.9 percent, with the 1978 proportion only one tenth of one percent higher than the 1969 proportion of males participating in adult education. Relative to females, however, there has been a consistent pattern of increase. While in 1969 under 10 percent of the females participated in AE, this percentage was increased to 10.8% in 1972; 11.6% in 1975 and 12.5% in 1978. It may be pointed out that the examination of the above percentages reveals more about the actual effective change in adult participation in lifelong learning than the annual rate of growth shown in Table 1.

Rate of PAE by Level of Education Completed: The actual number and the annual rate of change (growth) by level of education completed are also shown in Table 1. As noted from the table those with less than four years of high school experienced a positive annual rate of growth of 1.3% between 1969 and 1972; but they experienced a negative (-5.4%) rate of growth during the 1972-78 period, with an average negative (-1.5%) annual rate of growth for the entire period between

1969 and 1978. Relative to those with 4 years of high school education, a small negative (-0.4%) annual rate of growth is observed between 1975 and 1978, with an average positive annual rate of growth of 2.5 percent during the years between 1969 and 1978. The other two educational categories, those with 1 to 3 years of college and those with 4 or more years of college, showed an annual rate of increase of 5.5 and 5.7 percent respectively, during the 1969-78 period.

But, how much of this is due to changes in the population size (base) and how much is due to real changes in the pattern of participation in adult education? Again, the following percentages (proportions) will answer the question:

Level of Education Completed	1969	1972	1975	1978
Less than 4 years of high school	3.5	3.7	3.3	3.3
4 years of high school	11.3	11.9	11.9	11.1
1-3 years of college	16.6	18.3	17.6	17.5
4 or more years of college	27.0	29.1	28.3	26.5

As the above data show, 3.5 percent of those with less than 4 years of high school education in 1969 participated in AE. This percentage increased to 3.7 percent in 1972 and declined to 3.3 percent in 1975; it remained at 3.3 percent in 1978. As a whole, there has been a small drop in the proportion of those with less than 4 years of high school participating in adult education in 1978 as compared with 1969 or 1972. A similar trend is observed among those with 4 years of high school education. The proportion participating in AE increased from 11.3% in 1969 to 11.9% in 1972, remaining constant in 1975, and declining to 11.1% in 1978. That is, despite the fact that

the absolute number of PAE increased at an annual rate of 2.5% (see Table 1), the actual participation in adult education declined by two tenths of one percentage point. Regarding those with 1-3 years of college, the proportion participating in adult education increased from 16.6% in 1969 to 18.3% in 1972; then dropped to 17.6% in 1975 and 17.5% in 1978. Despite the drop between 1972 and 1978, there have been real, but small gains between 1969 and 1978 in the proportion participating in AE (see Table 1) for those with 4 or more years of college. Also, despite the fact that the absolute number of participants increased at an average annual rate of growth of 5.7 percent between 1969 and 1978, there was a decline in the proportion of people actually attending adult education courses. This proportion increased from 27.0% in 1969 to 29.1% in 1972; but dropped to 28.3% in 1975 and 26.5% in 1978, which is lower than the 1969 level by one half of one percentage point.

Rate of PAE by Annual Income: Table 1 also shows the actual number and the annual rate of increase in the number of PAE by income levels. As noted from the table, the annual rate of growth in the number of participants in AE was -3.5% for those with less than $5,000-9,000 annual income, and -1.8% for those with $10,000-14,999 annual income. The number of those with $15,000-24,999 annual income participating in adult education increased at an annual rate of 11.2 percent. The corresponding rate for those with $25,000 or more annual income increased at the highest rate of all, 24.3% during the 1969-78

period. A significant part of this change, however, is due to the fact that between 1969 and 1978 the number of adults making $25,000 or more increased. The following proportions (percentages) of PAE by level of income in different years, more clearly show the changes in the rate of participation in adult education:

Annual Income	1969	1972	1975	1978
Under $5,000	4.3	5.6	5.0	5.3
$5,000-9,999	9.0	9.9	.8	8.3
$10,000-14,999	11.7	14.1	12.9	11.4
$15,000-24,999	13.2	17.2	15.8	14.7
$25,000 or over	13.8	17.0	17.7	17.5

The above percentages are quite revealing with regard to the relationship between annual income and participation in adult education. Data in Table 1 show that the absolute number of those with an annual income under $5,000 steadily declined from 1,355,000 in 1969 to 989,000 in 1978. This is understandable because of the changes in annual wage and salary structures. The number of people in the lower income bracket have declined rapidly as the data in Table 3 show.

II. PROJECTIONS

As stated earlier, projections reported in this paper are for the years 1980, 1985, and 1990. Two alternative projections are made for each year. The assumed annual rate of growth in PAE for each projection series and each subgroup of the population is provided in Tables 4 and 5. It is extremely difficult to determine the annual number of births, deaths, and net migrants (components of population growth) in future years, even in the short run. This is because social, economic, political and many other variables which affect the components of population growth (especially the level of fertility), are neither fully understood nor easily predicted. Herein lies an anomaly. Because the factors influencing fertility and other components of population growth are subject to change, and because couples in the United States exercise a high degree of control over reproduction, fluctuations in the annual fertility rates are to be expected. However, given the present inability to predict these fluctuations in fertility or in the factors underlying them, it seems preferable to assume a smooth trend in annual total fertility rates toward the ultimate cohort fertility rate in each projection series, with the qualification that the actual trend in the rates may not be as smooth as the projections indicate.

With this, and with our words of caution expressed in the introduction of this paper, an attempt is made to make some short range projections regarding the absolute number of PAE in

Table 4: Actual 1978 and Projected 1980 Number of Participants in Adult Education (PAE are in 1000's)

Population Characteristics	Actual PAE 1978	Projected PAE in 1980 Under two Alternative Assumed Percent Annual Rate of Grow			
		Rate	1980	Rate	1980
Total	17,982	+ 1.7	18,604	+ 1.5	18,530
Age					
17-34 yrs.	10,047	+ 1.5	10,353	+ 1.1	10,270
35-54 yrs.	6,025	+ 1.5	6,208	+ 1.2	6,171
55 and over	1,910	+ 5.3	2.124	+4.0	2,069
Race					
White	16,596	+ 1.7	17,170	+ 1.5	17,101
Black	1,054	+ 0.7	1,069	+ 0.6	1,067
Other	332	+ 4.6	364	+ 4.3	362
Sex					
Male	7,786	- 1.0	7,632	- 0.6	7,693
Female	10,206	+ 4.0	11,056	+ 3.0	10,837
Education					
4 yrs. H.S.* or less	8,062	- 0.4	7,998	- 0.3	9,014
1-3 yrs. college	4,220	+ 4.5	4,617	+ 3.3	4,508
4+ yrs. college	5,700	+ 2.9	6,040	+ 2.3	5,968
Annual Income					
Under $5,000	989	- 5.6	884	- 5.0	894
$5,000-9,999	2,239	-10.8	1,804	-10.0	1,833
$10,000-14,999	3,224	- 9.5	2,666	- 9.0	2,693
$15,000-24,999	6,152	+ 4.3	6,704	+ 4.0	6,664
$25,000 & over	4,594	+11.0	5,724	+10.5	5,667
Not reported	784	+ 1.7	811	+ 1.5	808

* H.S. stand for high school

Table 5: Projected 1985 and 1990 Participants in Adult Education (PAE) (in 1000's)

Population Characteristics	1980 Projected	Assumed Rate	Projected PAE 1985	Projected PAE 1990	Assumed Rate	Projected PAE 1985	Projected PAE 1990
Total	18,530	1.5	19,973	21,529	1.2	19,676	20,892
Age							
17-34	10,270	+1.1	10,851	11,464	+0.9	10,743	11,237
35-54	6,171	+1.2	6,553	6,958	+1.0	6,487	6,820
55 & over	2,096	+4.0	2,560	3,127	+3.1	2,447	2,858
Race							
White	17,101	+1.5	18,433	19,868	+1.2	18,158	19,281
Black	1,067	+0.6	1,099	1,133	+0.5	1,094	1,122
Other	362	+4.3	449	556	+3.5	431	513
Sex							
Male	7,693	-0.2	7,616	7,541	-0.1	7,655	7,616
Female	10,859	+2.5	12,305	13,943	+2.0	12,001	13,263
Education							
4 yrs. H.S.* or less	8,014	-0.3	7,895	7,777	-0.2	7,934	7,855
1-3 yrs. college	4,508	+3.3	5,317	6,270	+3.0	5,238	6,085
4+ yrs. college	5,968	+2.3	6,695	7,511	+1.6	6,465	7,003
Annual Income							
Under $5,000	894	-5.0	696	542	-4.0	732	599
$5,000-9,999	1,833	-10.0	1,112	674	-9.0	1,169	745
$10,000-14,999	2,693	-9.0	1,717	1,095	-8.0	1,805	1,210
$15,000-24,999	6,664	+3.0	7,742	8,995	+2.7	7,627	8,730
$25,000 & over	5,667	+5.0	7,277	9,343	+4.3	7,026	8,712
Not Reported	808	+1.5	871	939	+1.2	858	911

* H.S. stands for high school

1980, 1985 and 1990. In doing this some assumptions are made: (1) it is assumed that the declining trend observed between 1975 and 1978 will continue up to 1980; and, (2) it is assumed that the rates between 1980 and 1990 will be somewhat lower than those between 1978 and 1980.

Projected Number of Total PAE: Two alternative projected numbers of PAE for 1980 are shown in Table 4. In table 5 two projected numbers of PAE for 1985 and 1990 are shown. If we assume an annual rate of growth of 1.7 percent between 1978 and 1980 in the total number of participants in adult education, then we project that the total number of PAE in 1980 will be 18,604,000. But if it is assumed that the number of PAE will increase at an annual rate of 1.5%, the 1980 projected number of PAE will be 18,530,000. Taking the lower 1980 projected figure as the base population and assuming that this population will grow at an annual rate of 1.5%, it is projected that the total number of PAE will be 19,973,000 in 1985, and 21,529,000 in 1990. Under the assumption of an annual rate of growth of 1.2 percent, the projected total number of PAE is 19,676,000 in 1985 and 20,892,000 in 1990. Figure 1 shows the actual number of PAE between 1969 and 1978 (solid line), the 1978-1980 projection (dotted line)[5], and two alternative projections from 1980 to 1990 (also dotted lines).

Projected Number of PAE by Age: The projected number of PAE by age are shown in Tables 4 and 5. As noted from Table 4, at an annual rate of growth of 1.5 percent the number of PAE among those 17-34 years old is projected to be 10,353,000 in 1980. At an annual rate of growth of 1.1 percent it is

projected to be 10,270,000. Relative to those 35 to 54 years old, at an annual rate of growth of 1.5 percent the projected number of PAE is 6,208,000 in 1980. At an annual rate of growth of 1.2%, the projected number is 6,171,000. The number of PAE among those 55 years of age and over grew much faster than the younger age groups from 1969 to 1978. Because of this, it is assumed that between 1978-90 the number of participants in adult education among those 55 years of age and over will continue to grow at a higher rate. At an annual rate of growth of 5.3 percent, it is projected that the number of PAE age 55 and over will be 2,124,000. At an annual rate of 4.0 percent, it will reach 2,069,000. Table 5 shows the projected figures for 1985 and 1990. At an annual rate of growth of 4.0 percent, it is projected that the number of PAE among those 55 years of age and over will reach 2,560,000 in 1985 and 3,127,000 in 1990. At an annual rate of growth of 3.1 percent, the corresponding projected numbers will be 2,447,000 and 2,856,000. Figure 2 shows the actual (1969-78) and the projected (1978-90) number of PAE by age.

Projected Number of PAE by Race: Table 4 shows the projected number of PAE by race for 1980 using two alternative annual rates of growth. As noted from Table 4, at an annual rate of growth of 1.7 percent the number of PAE among whites is projected to increase from 16,596,000 in 1978 to 17,170,000 in 1980. At an annual rate of 1.5 percent, it is projected to increase to 17,101,000. The number of PAE among blacks grew at 0.8 percent from 1969 to 1978. As discussed earlier,

FIGURE 1: TOTAL PARTICIPANTS IN AE

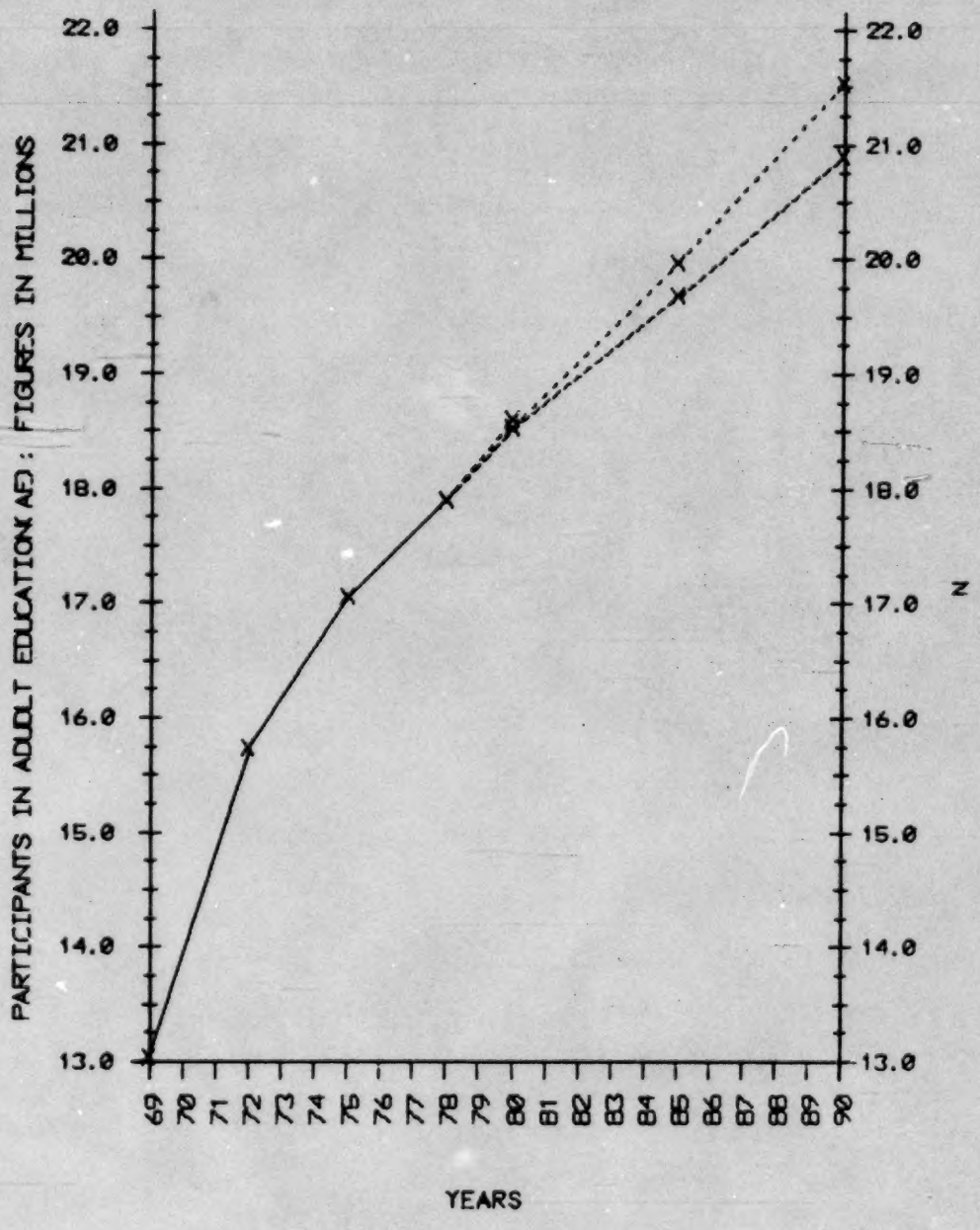


FIGURE 2: PARTICIPANTS IN AE BY AGE

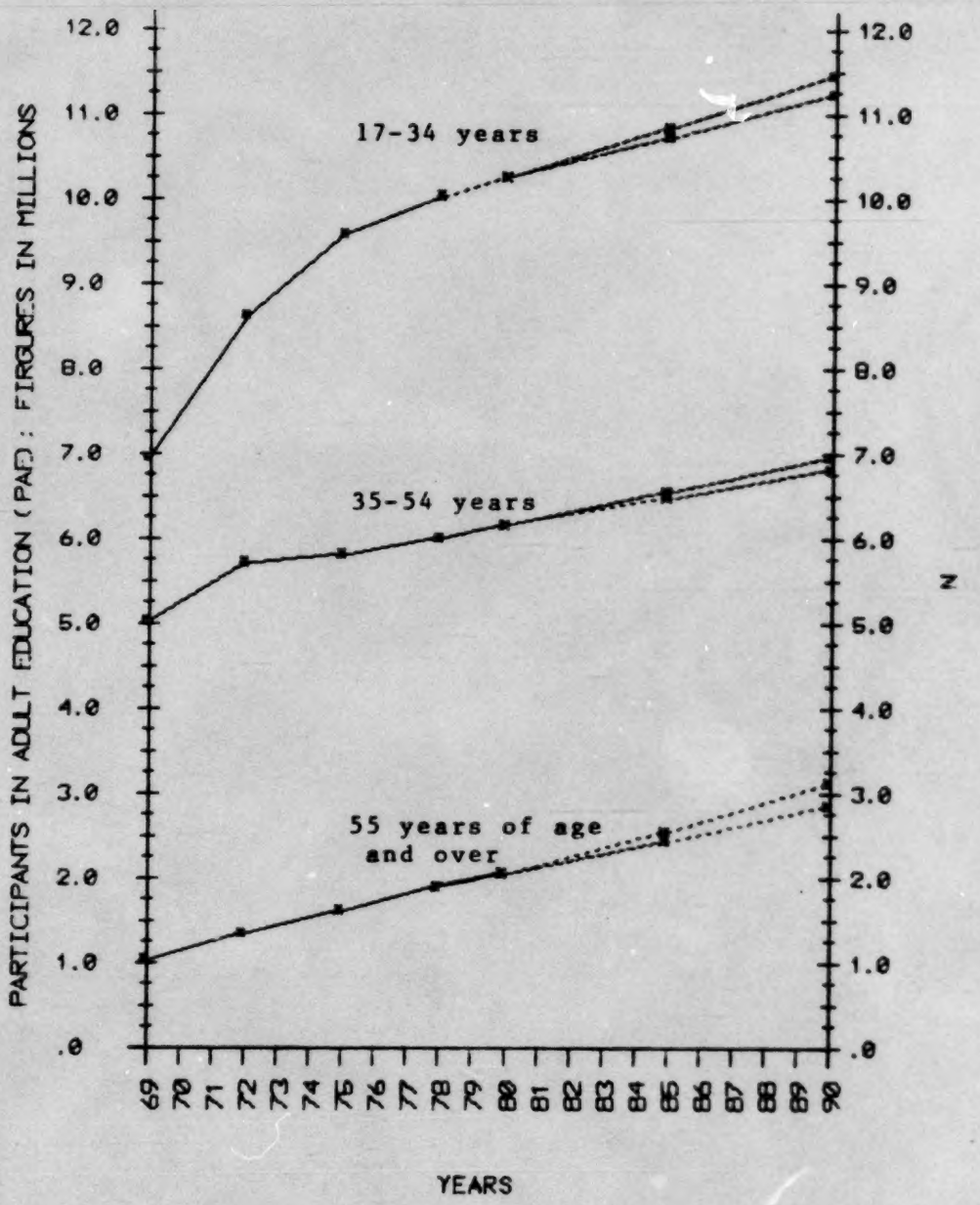


FIGURE 3: PARTICIPANTS IN AE : BLACKS AND WHITES

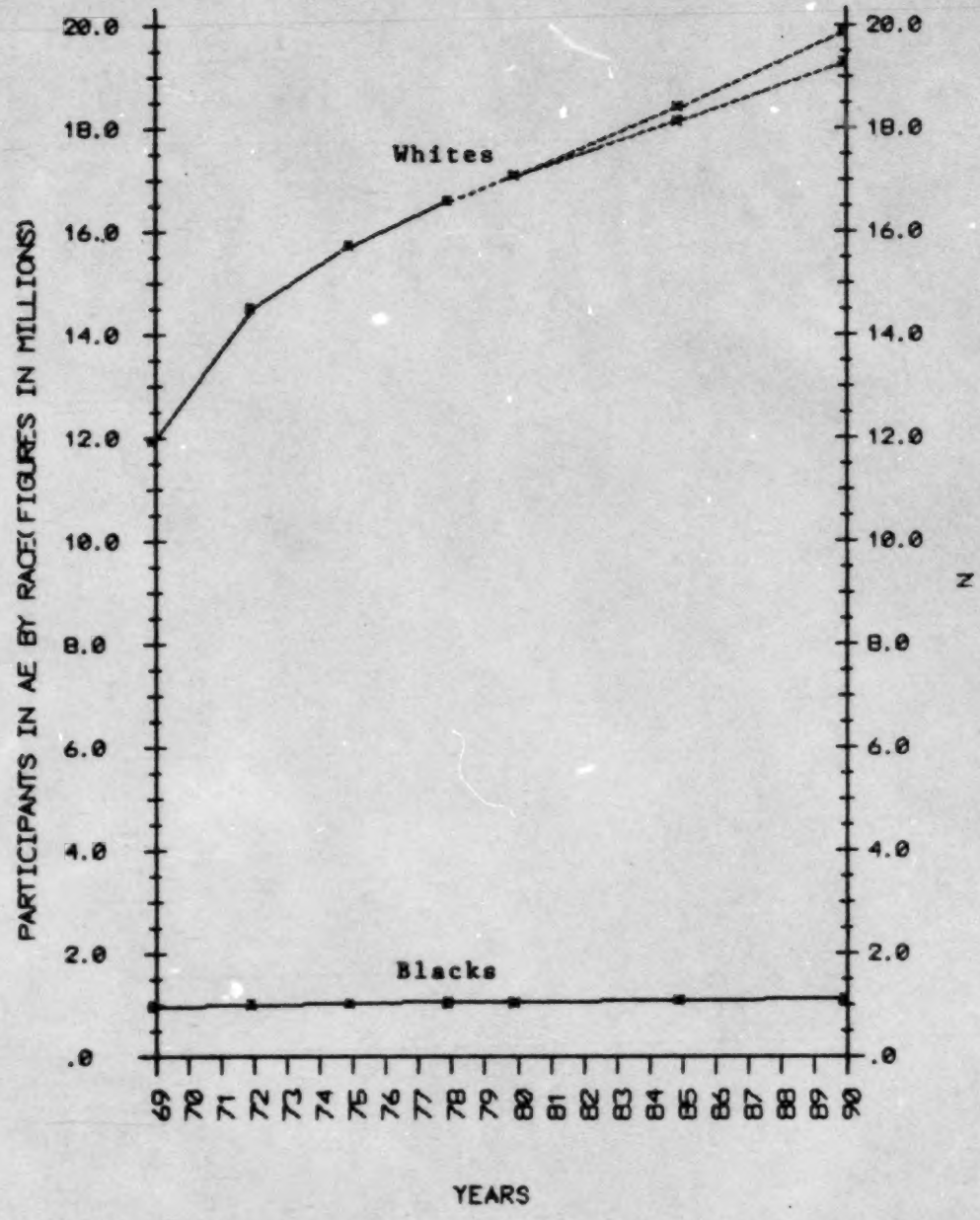
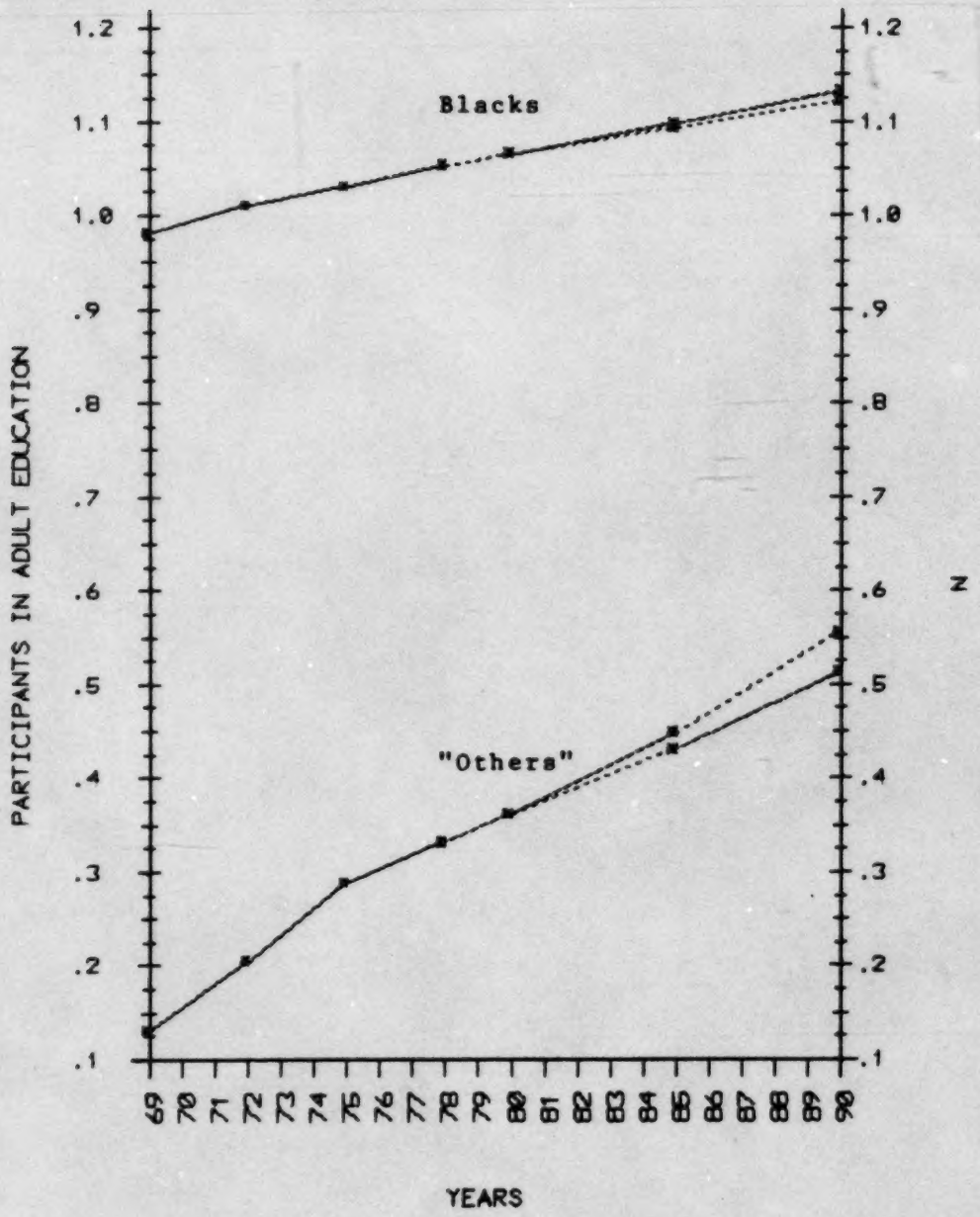


FIGURE 4: PAE BY BLACKS AND "OTHER"



the 1978-1990 rates are expected to be lower than those for the 1969-78 period. Consequently, under the assumption that the number of blacks participating in AE will grow at an annual rate of 0.7 percent, it is projected that number of blacks participating in adult education will increase from 1,054,000 in 1978 to 1,069,000 in 1980. At an annual rate of growth of 0.6 percent, black participation will increase to 1,067,000 by 1980.

The number of PAE among the "other" racial category grew at a much higher rate than either the whites or the blacks from 1969 to 1978. It is assumed that this differential will be maintained during the 1978-1990 period. At an annual rate of growth of 4.6 percent, it is projected that the number of "other" racial groups participating in AE will increase from 332,000 in 1978 to 364,000 in 1980. However, at an annual rate of growth of 4.3%, it is projected to grow to 362,000. Table 5 shows the projected numbers for 1985 and 1990.

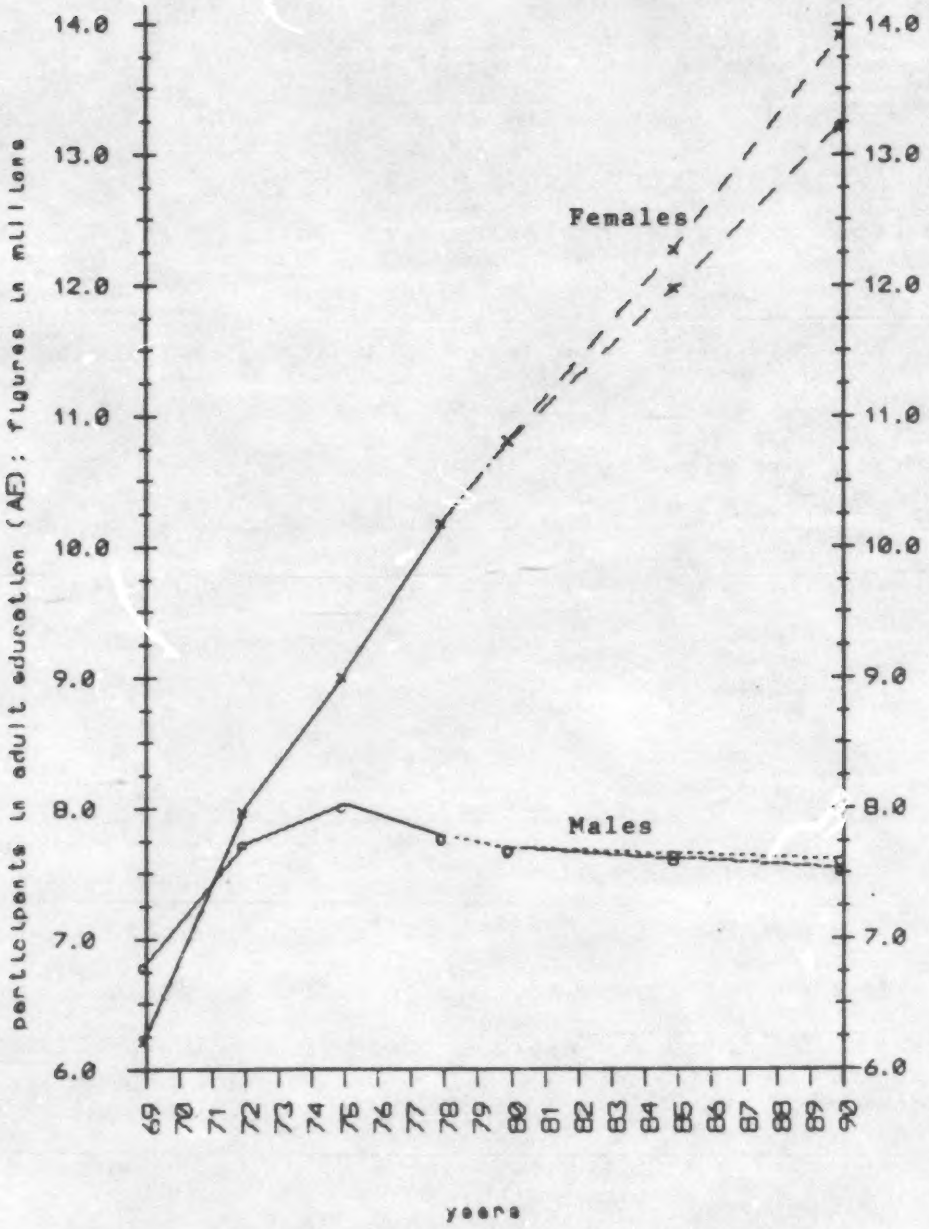
At an annual rate of growth of 1.5 percent, the number of whites participating in AE is projected to be 18,433,000 in 1985 and 19,868,000 in 1990. At an annual rate of growth of 1.2 percent, however, it is projected that the number of whites participating in AE will reach 18,158,000 in 1985, and 19,281,000 in 1990. Relative to the blacks, at an annual rate of growth of 0.6 percent, the number of blacks participating in AE is projected to be 1,099,000 in 1985 and 1,133,000 in 1990. But at an annual rate of growth of 0.5 percent, the numbers are projected to be 1,094,000 in 1985 and 1,122,000 in 1990.

Concerning the "other" racial category, at an annual rate of growth of 4.3 percent, it is projected that the number will reach 449,000 in 1985 and 556,000 in 1990. However, at an annual rate of growth of 3.5 percent, it is projected that the number of PAE among the "other" racial category will be 431,000 in 1985 and 513,000 in 1990. Figures 3 and 4 show the actual (1969-78) and the projected (1978-1990) number of PAE by race.[6]

Projected Number of PAE by Sex: Tables 4 and 5 also show the projected number of PAE by sex. Based on the 1975-78 observations, the number of male participants in AE changed at a negative rate of -1.0 percent. Assuming that the same rate continues between 1978 and 1980, it is projected that the number of males participating in AE will decline from 7,786,000 in 1978 to 7,632,000 in 1980. At an annual rate of growth of -0.6%, it is projected to decline to 7,693,000 by the year 1980. Table 5 shows the projected figures for 1985 and 1990. As can be noted from the Table, at an assumed rate of growth of -0.2% the number of males participating in AE is projected to decline to 7,616,000 in 1985 and 7,541,000 in 1990. At an annual rate of growth of -0.1% it is projected that the number of males participating in AE will decline to 7,616,000 in 1990.

In contrast to the males, the number of females participating in AE increased at an unprecedented rate of 5.5 percent between 1969 and 1978 and at the rate of 4.0 percent between 1975 and 1978. Assuming that the 1975-78 rate continues between 1978 and 1980, it is projected that the number of females particiapting in AE will increase from 10,206,000 in 1978 to 11,056,000 in 1980. But, at an annual rate of 3.0 percent,

figure 5: total participants in AE, by sex



the number is projected to increase to 10,837,000. Table 5 shows that at an annual rate of 2.5 percent the number of female PAE will increase to 12,305,000 in 1985 and to 13,943,000 in 1990. At an annual rate of 2.0%, the number is projected to be 12,001,000 in 1985 and 13,263,000 in 1990. That is, the projected number of female PAE in 1990 will be 1.7 to 1.8 times greater than the corresponding number of male PAE. Figure 5 shows the actual (1969-78) and the projected (1978-90) number of PAE by sex.

Projected Number of PAE by Level of Education: The projected number of PAE by prior level of education attained is shown in Tables 4 and 5. As discussed earlier, the number of PAE among those with high school or less education declined between 1975 and 1978. It is assumed that this negative rate of growth will continue into the future. At an annual rate of growth of -0.4%, it is projected that the number of PAE with a high school or less education will decline from 8,062,000 in 1978 to 7,998,000 in 1980. At an annual rate of growth of -0.3, the number will decline to 8,014,000 in 1980. At an annual rate of growth of -0.3, the number of PAE among those with 4 years of high school or less education will decline to 7,895,000 in 1985, and to 7,777,000 in 1990. At an annual rate of -0.2, however, the number of PAE among those with 4 or less years of high school education is projected to decline to 7,934,000 in 1985 and to 7,855,000 in 1990.

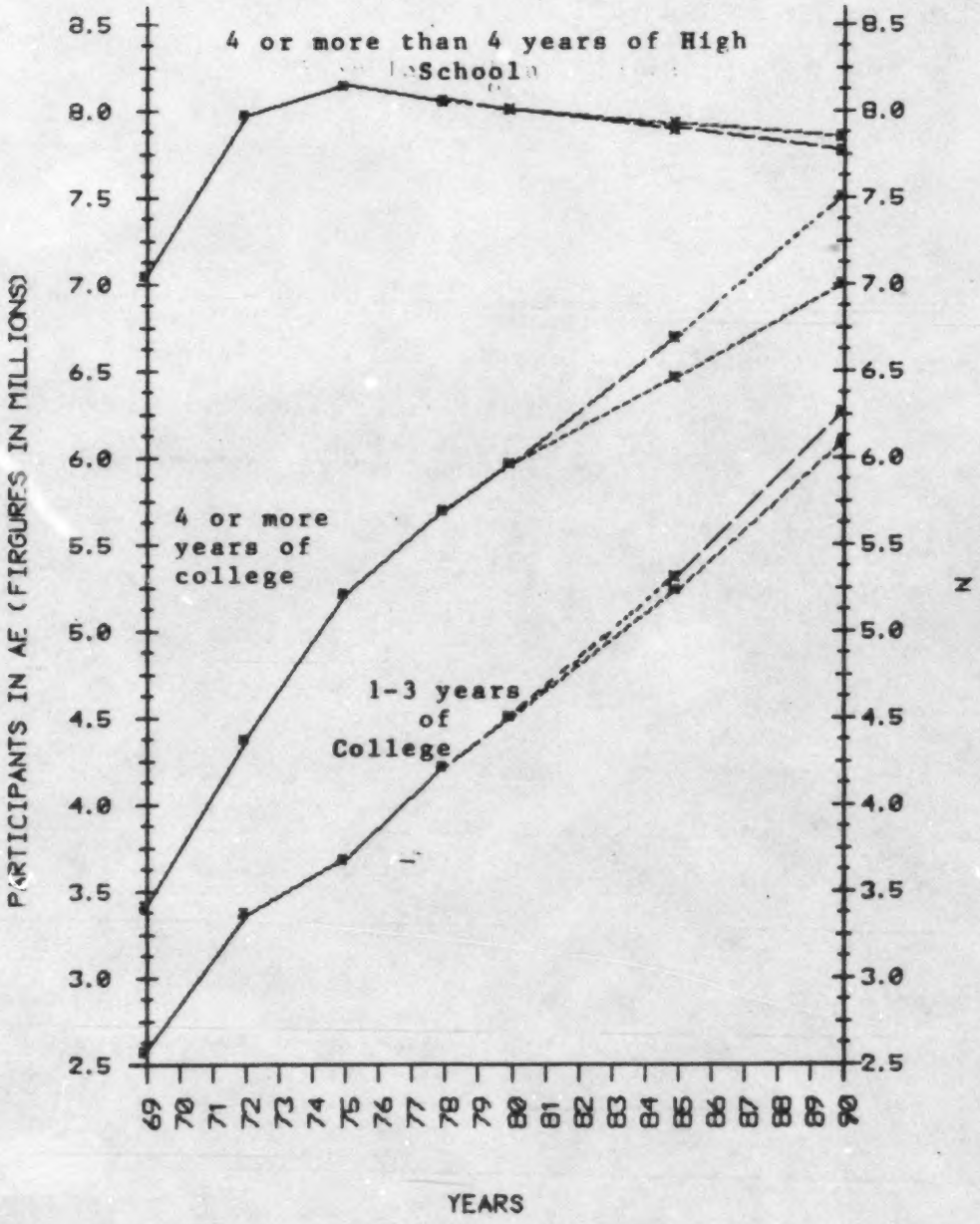
In contrast to those in the lower educational bracket, the number of PAE among those with 1-3 years of college witnessed positive growth (4.5% annually) between 1975 and 1978. Thus,

at an annual rate of growth of 4.5 percent, the number of PAE among those with 1-3 years of college will increase from 4,220,000 in 1978 to 4,617,000 in 1980. At an assumed annual rate of 3.3% however, it will increase to 4,508,000 by 1980. Table 5 shows the projected numbers for 1985 and 1990. At an annual rate of growth of 3.3 percent, the number of PAE among those with 1-3 years of college will increase from 4,508,000 in 1980 to 5,317,000 in 1985 and to 6,270,000 in 1990. But, at an annual rate of growth of 3.0 percent it will increase to 5,238,000 in 1985 and to 6,085,000 by 1990.

The number of PAE among those with 4 or more years of college also witnessed a positive growth between 1975 and 1978 (2.9%). If we assume that this rate is going to continue through 1980, the number of PAE among those with 4 or more years of college education will increase from 5,700,000 in 1978 to 6,040,000 in 1980. However, at an assumed annual rate of increase of 2.3%, it will increase from 5,700,000 in 1978 to 5,968,000 in 1980. As noted from Table 5, assuming an annual rate of growth of 2.3%, the number of PAE among those with 4 or more years of college is projected to reach 6,695,000 in 1985 and 7,511,000 in 1990. But, at an assumed annual rate of growth of 1.6 percent the projected figures are 6,465,000 for 1985 and 7,003,000 by 1990. Figure 6 shows the actual (1969-78) and projected number of PAE by prior level of education attained.

Projected Number of PAE by Annual Income: Tables 4 and 5 also show the number of PAE by annual income. Based on the

FIGURE 6: PAE BY LEVEL OF EDUCATION



1969-78 and 1975-78 experiences, the number of PAE among those with an annual income of less than $15,000 shows negative growth (see Table 1). Therefore, if we assume that the number of PAE will continue to grow at a rate of -5.6, it is projected that the number of PAE will decline from 989,000 in 1978 to 884,000 in 1980. Under the assumption that PAE will grow at a negative annual rate of -5.0%, it is projected that it will decline to 894,000 by 1980. Table 5 shows the projected figures for 1985 and 1990. As can be noted from Table 5, at an annual rate of growth of -5.0% the number of PAE among those with less than $5,000 annual income is projected to decline to 696,000 in 1985 and 542,000 by 1990. Tables 4 and 5 also show that the number of participants in adult education among those with $5,000 to $9,999 annual income is projected to decline from 2,239,000 in 1978 to 674,000 in 1990. Relative to those with an annual income of $10,000 to $14,999, it is projected that the number of PAE will decline form 3,224,000 in 1978 to a low of 1,095,000 in 1990.

In contrast to those with an annual income of less than $15,000, the number of PAE among those with an annual income of $25,000 or over, in particular, increased significantly. As shown in Table 1, the number of PAE among those with an annual income of $15,000 to $24,000 increased at an annual rate of 4.3% between 1975 and 1978. Assuming that this rate will continue through 1980, it is projected that the number of PAE among this income group will increase from 6,152,000 in 1978 to 6,704,000 in 1980. At an alternative assumed rate of just 4.0 percent, it is projected that the number of PAE among this

income group will increase from 6,152,000 in 1978 to 6,664,000 in 1980. Table 5 shows the projected figures for 1985 and 1990. As can be seen from the table, at an annual rate of 3.0 percent, it is projected that the number of PAE among those with $15,000 to $24,999 annual income will reach 8,995,000 in 1990; and, at an annual rate of 2.7 percent it will be 8,730,000 by 1990.

Based on the 1969-78 experience, as shown in Table 1, the number of PAE among those with an annual income of $25,000 or over increased at an unprecedented rate of 24.3% annually. It grew at an annual rate of 22% between 1975 and 1978. Even if we assume that the numbers are going to grow at 11.0% annually between 1978 and 1980, PAE among those with an annual income of $25,000 or more will increase from 4,594,000 in 1978 to 5,724,000 in 1980; at a rate of 10.5%, it is projected that the number will increase to 5,667,000 in 1980, as shown in Table 4. Table 5 shows the projected figures for 1985 and 1990. As can be noted from Table 5, at an assumed annual rate of growth of 5.0 percent the number of PAE among those with $25,000 or more annual income will grow to 7,277,000 in 1985 and to 9,343,000 in 1990; and at an annual rate of 4.3% it is projected to increase to 8,712,000 by 1990.

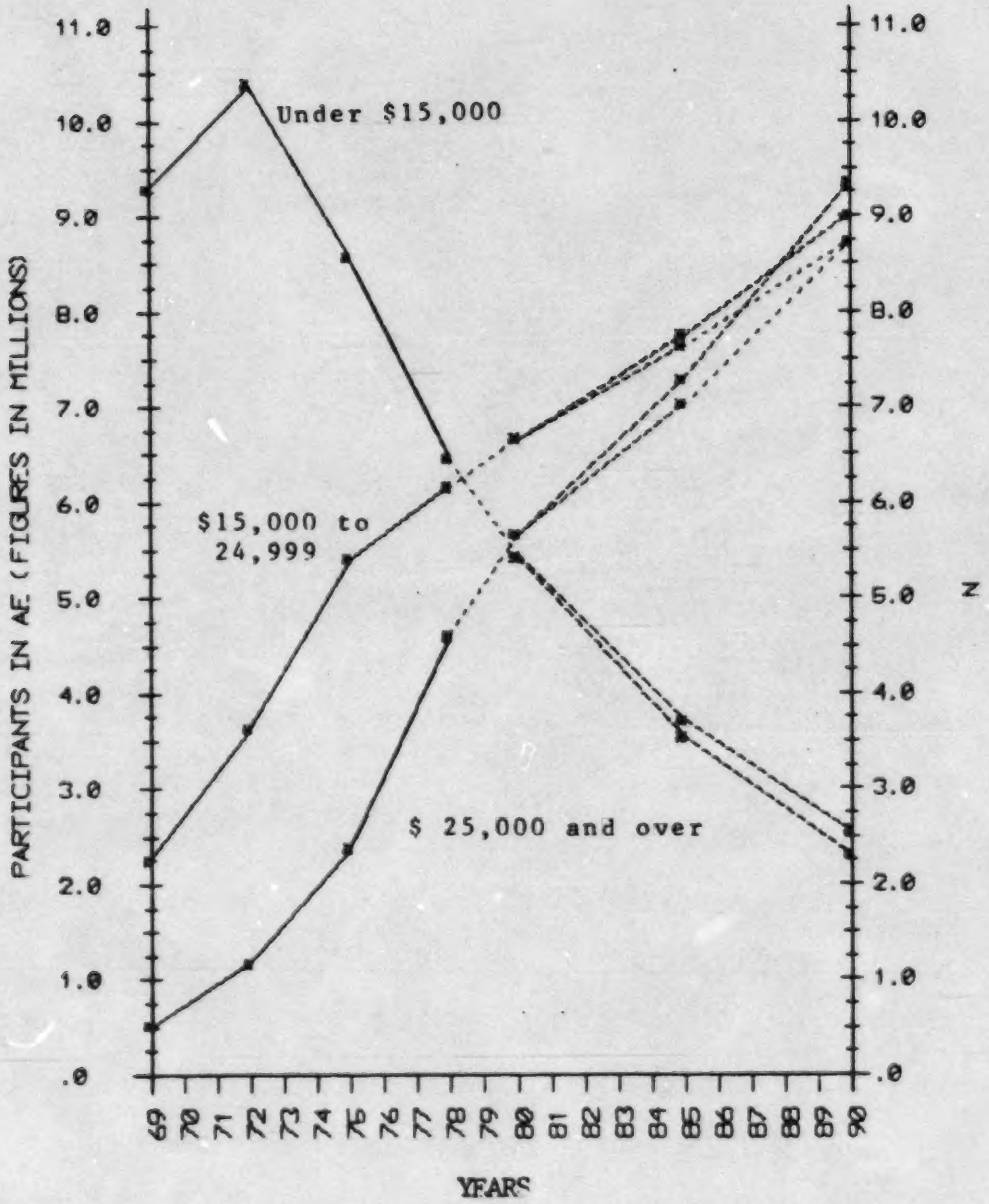
Based on the projections presented in Table 5, by 1990 only 542,000 to 599,000 (2.5 to 2.9% of the total of 21 million PAE) are from those with under $5,000 annual income. This compares with 10.4 percent in 1969; 10.3 percent in 1972; 6.8 percent in 1975; and 5.8 percent in 1978, clearly showing the declining trend in participation in adult education courses

among those with less than $5,000 annual income. A similar trend is also observed relative to those with an annual income of $5,000 to $9,999. In 1969 more than 31 percent of the total participants came from those with an annual income of $5,000 to $9,999; this proportion was reduced to 25.2 percent by 1972, to 18.2 percent in 1975; and to 12.4 percent by 1978. It is projected that by 1990 between 3.1 and 3.6 percent of the total PAE will be from those with an annual income of $5,000 to $9,999.

As previously indicated, however, two major reasons for the sharp reduction in PAE in the number of those with an annual income under $10,000 are inflation and the changing structure of income distribution. By the year 1990, for example, those with an income under $10,000 annually may very well fall in the lower income bracket and/or the poverty group. Figure 7 shows the actual (1969-78) and the projected (1978-90) number of PAE by annual income.

The number of participants in AE is a function of (1) a genuine change in the rate of participation in AE; and (2) the size of the base population. In order to measure the degree of change in the rate of participation, the effect of the difference in the base population needs to be eliminated. In Part I this was achieved by simply calculating the percent of PAE within a given sub-population in different years. For instance, 7.8% of the adult blacks in 1969, 7.4% in 1972, 6.9% in 1975, and 6.5% in 1978 participated in AE courses. Although the absolute number of black PAE had increased between 1969 and 1978, these percentages show that there has actually been a small decline

FIGURE 7: PAE BY ANNUAL INCOME



in the rate of the black participation in AE. Thus, in order to be able to calculate the relative proportion of population sub-groups participating in AE in 1980, 1985, and 1990, this paper includes a projection of the adult population for 1980, 1985, and 1990.

Table 6 shows the actual 1975 and the projected total number of the adult population in 1980, 1985, and 1990 by age, race, sex, highest level of education completed, and annual family income. The most important element in Table 6 is the assumed set of annual rates of growth. But why the rates presented in Table 6? These rates are arrived at partly by employing the data from the U.S. Census Bureau Projection figures, presented in Projections of the Population of the United States: 1977 to 2050 (Series P-25, No. 704, issued July 1977). The U.S. Census Bureau, using the "inflation-deflation variant of the standard cohort-component method[7], projects the U.S. population up to the year 2050 by age, race, sex, highest level of education completed, family income, and some other variables. The projected figures relative to the years 1977 to 1990, are used to calculate the annual rate of growth between 1977-1990, thus arriving at some rough estimate for the assumed annual rates presented in Table 6. For example, on the basis of the U.S. Census Bureau Projection, the 1977 population 17 years of age and over was estimated to be 214,118,000; and was projected to reach 243,513,000 by 1991. This means an annual rate of growth of 0.0082 or 0.82 percent. Applying this rate to the 1975 adult population provided by Boaz (1978) projections are made for 1980, 1985, and 1990.

TABLE 6: Actual and Projected Adult (17 years and over) Population
(Figures are in 1000's)

Population Characteristics	Actual 1975	Assumed Annual Rate of Growth	1980	Projected 1985	1990
Total Adults	146,602	+.0082	152,738	159,130	165,790
Age					
17-34 yrs	60,038	+ .003	60,945	61,866	62,790
35-55 yrs	45,871	+ .015	49,443	53,294	56,445
55 & over	40,693	+ .009	42,566	44,525	46,574
Race					
White	129,592	+ .007	134,208	138,988	143,939
Blacks	14,857	+ .014	15,934	17,090	18,328
Other	2,153	+ .035	2,564	3,055	3,640
Sex					
Male	68,610	+.0082	71,689	74,690	77,932
Female	77,792	+.0081	80,966	84,355	87,974
Highest Level of Education Completed					
Less than 4 yrs H.S.	53,388	- .012	50,479	47,451	44,593
4 yrs. High School	53,755	+ .010	56,511	59,908	62,454
1-3 yrs College	21,022	+ .022	23,944	26,870	29,213
4+ yrs College	18,457	+ .031	21,844	24,914	29,383
Family Income (Annual)					
under $5000	23,373	- .060	18,551	13,737	9,502
$5,000-9,999	31,518	- .050	26,298	20,474	14,888
$10,000-14,999	33,198	- .040	29,120	23,832	18,219
$15,000-24,999	34,118	+ .050	46,935	60,244	72,228
$25,000 & over	13,408	+ .070	20,385	28,916	38,315
Not reported	10,987	-	-	-	-

According to Boaz (1978), total adult (17 years of age and over) population continues to grow at the rate of 0.82 percent up to the year 1990: the total adult population is projected to be 152,738,000 in 1980; 159,130,000 in 1985; and 165,790,000 in 1990. Projections for various population subgroups are made in the same fashion. For instance, everything considered, the population 17-34 years of age is estimated (assumed) to grow at 0.30 percent annually between 1975 and 1990. Applying this rate to the number of adults in this age group in 1975 (60,038,000), the projected figures will be 60,945,000 in 1980; 61,866,000 in 1985; and 62,801,500 in 1990.

SUMMARY AND DISCUSSION

Using data relative to 1969, 1972, 1975, and 1978 provided by the National Center for Educational Statistics (NCES), this paper analyzes trends in adult education participation by age, race, sex, level of education, and annual income. As a whole the number of PAE increased at an annual rate of 3.6 percent between 1969 and 1978. The highest rate of growth was observed during the 1969-72 period. As to the number of PAE by age, the highest rate was observed among those 55 years of age and over, followed by those 17 to 34 years old. A partial explanation offered is that the former group were born prior to 1914 when the U.S. birth rate was 30 per thousand population, and the latter were mostly born during the baby boom period when again the birth rate was high. The high birth rate during those periods partly contributed to the higher number of participants in the late 1960's and early 1970's. Regarding PAE by race, while the number of black PAE grew at 0.8 percent annually between 1969 and 1978, the number of white PAE grew at 3.7 percent rate, and the "others" racial category grew at the highest rate, 10.3 percent annually. Female PAE grew more rapidly than male PAE--more than four times faster. While participation in adult education by those with less than four years of high school education declined over the nine year period, the number of PAE by those with one or more years of college education grew at the rate of over 5.5% annually. Regarding the pattern of participation in AE by annual income, all those with income less than $15,000

annually experienced a decline, but the number of PAE by those with $15,000 to $24,999 annual income increased at 11.2 percent, and those with $25,000 or more annual income grew at an unprecedented rate of 24.3 percent during the 1969-78 period.

The examination of the 1969-78 trends in participation in AE is followed by two alternative projections by age, race, sex, level of education, and annual income for the 1978-1990 period. The highlights of the projections are: (1) that by the end of the current decade there will be a small increase in the number of PAE by blacks; (2) that there will be a significant gain in the number of the "others" racial category participating in AE; (3) that female PAE will outnumber male PAE by a margin of about two to one; (4) that most participants in AE will come from among those 17 to 34 years old with one or more years of college education; and, (5) that about 87 percent of PAE will be from among those with an annual income of $15,000 or more.

In this paper we have presented a series of short term projections of participation by adults in education. What do these trends suggest for program developers and policy makers? Are there alternative scenarios that would change these projections? Before examining these questions we must point out some of the problems associated with the data on which these projections are based.

Significant differences exist between the NCES data from 1975 and 1978 and the data from 1969 and 1972. These differences reflect changes in how adult education has been defined and

thus what constitutes participation.

Component/Type of Adult Education	Included in Basic Tables as Participants in Adult Education 1978	1975	1972	1969
I. Participants in AE, not full-time students in regular school[a]	yes	yes	yes	yes
II. Participants in AE, also full-time students in regular school[a]				
17-34 years of age	yes	no[b]	no	no
35 years of age and over	yes	no[b]	yes	yes
III. Participants in AE, full-time status in regular school[a] not reported	yes	no	c	c
IV. Full time students in regular school				
17-34 years of age	no	no	no	no
35 years of age and over	no	no	yes	yes
V. Full-time Students in occupational programs of six months or more duration	no	yes	yes	yes
VI. Full-time students in occupational programs of less than 6 months duration	yes	yes	yes	yes
VII. Participants in apprenticeship, internship, and work study programs	no	c	c	c

a. Schooling leading to an eighth grade certificate, a high school diploma, or a college degree.

b. Except for special exhibits of population characteristics.

c. Not specified.

As shown above, the basic tables of PAE have consisted of seven (7) components or types of adult education. Components I and VI have been considered as AE in all of the four surveys. In the 1978 survey component II appears in the statistics for those 17-34 years of age, but not in the earlier surveys. Regarding those age 55 and over, component III has entered the 1978 statistics, but has not been specified in the other three surveys. The most important difference, however, relates to the changes in component V. While in 1978 full-time students in occupational programs of six months or more duration were not counted as PAE, they were included in the earlier surveys. In order to overcome this problem, and make the data for the four surveys as comparable as possible, we have added the number of those full-time students in occupational programs of six months or more duration to the 1978 data.

The most serious problem concerning the future of adult education research is that of agreeing on a generally accepted working definition of what does and what does not constitute adult education. As discussed earlier, "adult education" is defined as any "organized learning to meet the unique needs of persons beyond compulsory school age who have terminated or interrupted their formal schooling." This definition does not specify any time limit (one month, six months, or one year) for the learning process, rather it emphasizes the intention of the learning process. If it is for the purpose of

meeting the unique needs of the person, then it is a form of adult education. Despite this, however, it is not clear as to why item V of the components of AE was not included in the 1978 statistics. It is important that the working definition of AE be consistent with the above definition.

We therefore recommend that any future data collection efforts in this area be consistent and include as wide a range of "organized learning" as possible. In addition, it would be very helpful for future researchers if any data on adult participation in education included industry sponsored training (of any duration) and self-directed learning. With such information researchers and policy makers could select and choose those learning activities which fit their program. For example, if we were interested in knowing why individuals participate in learning activities it would be important to know about participants in informal (self-directed) as well as formal (organized) learning. If, on the other hand, we wanted to develop a college program for working adults, we may only analyze data on participants in formal or organized learning programs. A comprehensive and consistent data base would allow analysis and decision making to rest with the researchers, program developers and policy makers.

With the caveat that the projections made in this paper should be used cautiously, we will now return to the two questions raised earlier: What do these trends suggest? Are there alternative scenarios that would change the projections?

If even our most conservative projections hold, there will be almost 21 million adult participants in education by

1990. This represents an absolute increase of 4 million from 1978. How does this increase compare to the projected decline of the traditional college age population? Will these adults make up the deficit of students? What program changes need to be instituted to respond to this increase? How will these adults finance their learning? These and many other questions need to be responded to by program developers and institutional and governmental policy makers. The specific projections by age, race, sex, level of education and income suggest a number of more specific actions.

We projected that each age group will increase in number of participants through 1990. Most participants will continue to be 17 to 34, but the largest rate of growth will be for those adults 55 and over. Educational institutions and employers may be able to contribute to this population while gaining substantial benefit from their education investment. Specifically, educational institutions should consider pre-retirement and retirement programs; industry should look to internal retraining or skills updating options for this age group. With the vast majority of participants coming from the 17-34 age group, programs should reflect needs for skill development (in response to rapid technological changes), and advanced training in career areas.

The projections by race clearly show an overwhelming proportion of participants in AE continuting to be white. Blacks remain almost constant, while the "others" category increases at a rapid rate but continues to be small in abso-

lute numbers. To be responsive to the pressing equity issues inherent in these educational attainment figures, employers and educational institutions will need to examine their outreach and recruiting procedures, and their course offerings to make them more responsive to the needs of minority adults particularly blacks and Hispanics. Participation in adult education by larger numbers of blacks and Hispanics may help to make mobility (occupational and social) more of a reality.

Perhaps the most striking projections in the current series involve participation in AE by sex. We note that participation by males will be decreasing (in rate) while participation by females will increase both in rate and absolute numbers. This increase reflects the changing nature of women in the workforce and suggests that educational institutions may need to alter their offerings to reflect the needs of this population group. Adult women may need special programs on reentry into the paid labor force, skills upgrading and skill transference (how to transfer home making skills into "paid employment" skills), as well as the more traditional programs currently available to all adult workers.

Since our projections suggest an equal proportion of participants in AE for all education levels, programs need to respond to this. The most rapid increase, however, will be for adults with 1-3 years of college, and innovative programs need to be developed to allow these adults to complete their degree programs.

Finally, we note that the largest and fastest growing group of participants will have annual incomes in excess of $15,000. With inflation hovering in double digits, such incomes by 1990 may not allow for adequate coverage of educational expenses. Policy makers need to consider this in developing financing strategies for the near future. Finally, the programs more highly paid workers desire will differ from those of other adults and this should be reflected in future program development.

In considering alternative scenarios that may alter these projections we have tried on the one hand to be realistic, and on the other hand to be forward thinking. Following are three scenarios and the possible program and policy consequences of each.

Scenario 1: Recognizing the increasing need for certification and credentials, and the untapped potential of adults replacing the declining numbers of traditional college age students, educational institutions will develop more short term non-traditional degree or certificate programs and be more responsive to the learning needs of adults.

Scenario 2: Federal policies will be initiated to encourage countercyclical education and training whereby adults on unemployment compensation or on lay-off status would be permitted to enroll in a wide range of educational programs without loss of benefits.

Scenario 3: Recognizing the rapid changes in technology and in the workplace (to a more service oriented economy),

industry will increase its investment and support for the education and training of its workers.

Each of these scenarios, from differing perspectives, suggest the possibility of increases in adult participation in education beyond those projected in our analysis. Whether as a result of institutional changes in industry and education, or as a result of new federal policies, there is the potential for growing numbers of adults to participate in education. Program operators, program developers and policy makers need to be aware of these and other possible futures, and to continue to think through programs and policies that are responsive to the needs of this new cohort of adult participants in education.

The message from our projections and these scenarios seems clear. The population of adult participants in education may continue to grow at its projected "snails pace" (1.5% per year) or it may expand by a much larger percentage. Educational institutions, the government, industry, unions and adult Americans themselves are positioned to strongly influence the rate of growth, to shape that future. Failure to adopt or encourage responsive policies and programs, however, will guarantee a future condition far short of the potential.

FOOTNOTES

[1]For different definitions see: Broschart (1977), Peterson and Associates (1979); Merriam (1977), and Smith (1976).

One is struck by the large array of terms (vocational, non-vocational, general, formal, informal, nonformal, and community) used to denote the different aspects of adult education relative to its organizational formulation. Understanding and measurement is further complicated by the use of terms such as "further", 'advanced", "higher", "tertiary", "recurrent", or "social education" as used in Japan to refer to what is meant by adult education in the U.S. Relative to when education may be taken, terms such as: "adult education", "adult learning", "lifelong learning", and "lifelong education" contribute to the babel.

[2]Even NCES's definition of adult education has changed somewhat since 1969, when the first set of data was collected, and 1978, when the last set of data was collected.

[3]A forecast is defined as a projection that may be chosen as representing the "most likely" outcome. In Johnston's (1973:6) words: "If projections are race horses,. the forecast is the horse you decide to bet on". Thus, the distinction between a projection and a forecast is based on the purpose it is intended to serve rather than the method of preparing it.

[4]The two versions of this formula are: $P_{t2} = (P_{t1})e^{rn}$, and $P_{t2} = (P_{t1})(1 = r)^{n}$, where, P_{t1} = population (in this case # of participants in adult education) at the initial date; P_{t2} = population at the later date, t2; r = annual rate of growth, and n = the number of years between t1 & t2. For all practical purposes the two versions of the formula result in the same answer. Those interested in knowing about the difference between the two should see Barclay (1958:31-33). The first version is called continuous version, used here.

[5]Of the two alternative projections relative to the 1978-80 period (Table 4), only the projections based on the lower rate of annual growth are shown in the graphs. The reason for this is that the lower projected figures are used as input for the 1980-90 projections.

[6]There are too few "other" to be able to show it on the same scale as whites. Thus, figure 3 shows whites and blacks on the same scale. And, figure 4 shows blacks and "other" on a similar but larger scale.

[7]See Shryack, Henry S., and J.S. Siegel (1976), Chapter 23-24.

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